

**Claim listing**

Please enter the following new claim 97 to the claim listing, and enter the following amendments. This claim listing replaces all prior claim listings.

1 - 82 (Canceled)

83. (Previously Presented) The method of claim 92, wherein the encoding of the beads is with color.

84. (Previously Presented) The method of claim 92 wherein the polymer formed by polymerization is hydrophilic.

85. (Previously Presented) The method of claim 92, wherein the biomolecules are ligands or receptors.

86. (Previously Presented) The method of claim 85, wherein ligands are peptides, proteins, nucleic acids (including DNA and RNA) or oligonucleotides.

87. (canceled)

88. (Previously Presented) The polymer-bead assembly of claim 93, wherein the substrate is a silicon chip.

89. (Previously Presented) The method of claim 92, wherein the beads have an average diameter of 0.5  $\mu\text{m}$  to 100  $\mu\text{m}$

90. (Canceled)

91. (Previously Presented) The method of claim 92, wherein the beads include magnetic beads.

92. (Currently Amended) A method of forming an assembly of encoded beads embedded in a gel, wherein comprising beads in the assembly are encoded with different labels, and wherein differently labeled beads have different biomolecules displayed on their surfaces and the labeling indicates the type of biomolecule displayed on particular beads and the type of analyte said biomolecule is capable of binding with, the method comprising: providing a polymerization mixture including the encoded beads and polymerizable components; confining the mixture between two opposing planar surfaces; and

triggering polymerization of the polymerizable components to thereby form the gel embedded bead assembly.

93. (Previously Presented) The method of claim 92, wherein the gel embedded bead assembly is formed on a substrate.

94. (Previously Presented) The method of claim 92, wherein the separation of the opposing planar surfaces defines the thickness of the gel embedded bead assembly.

95. (Previously Presented) The method of claim 92, wherein the polymer formed by polymerization is permeable to macromolecules.

96. (Previously Presented) The method of claim 93, wherein the gel embedded bead assembly formed through polymerization is self-supporting and can be removed from the substrate.

97. (Newly Added) The method of claim 96 wherein the substrate is silicon.